



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,668	05/01/2007	Neil Buxton	3711-000121/US/NP	2798
27572	7590	10/25/2010	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C.			ROCHE, JOHN B	
P.O. BOX 828			ART UNIT	PAPER NUMBER
BLOOMFIELD HILLS, MI 48303			2184	
			MAIL DATE	DELIVERY MODE
			10/25/2010	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,668	<b>Applicant(s)</b> BUXTON ET AL.	
	<b>Examiner</b> JOHN B. ROCHE	<b>Art Unit</b> 2184	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-11 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-11 and 13-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>See Continuation Sheet</u> .           |

Continuation of Attachment(s) 6). Other:

NPL search dated September 1, 2010.

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

***Specification***

2. The disclosure is objected to because of the following informalities:

In the specification, numerous references to the Universal Serial Bus (USB) protocol and the IEEE 1394 (aka 1394 or FireWire) have been made; however, no indication of a specific iteration of either protocol is made in the specification.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-5, 7-11, and 13-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to

Art Unit: 2184

particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to independent claim 1, the external databus is claimed as being "in accordance with one of the IEEE 1394 standard or the Universal Serial Bus standard" (claim 1, lines 3-4). However, a specific version is not provided, either in the claims or in the specification, for either standard. It is possible that one of ordinary skill in the art could interpret this as encompassing all versions of the given standards. Therefore, the claims as written are indefinite.

Note that independent claims 7 and 13 contain the corresponding limitations of claim 1 as shown above; therefore, they are rejected using the same reasoning accordingly.

Further, claims 2-5, 8-11, and 14-17 are likewise rejected under 35 U.S.C. 112, second paragraph, as being indefinite for depending on an indefinite claim.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

Art Unit: 2184

the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3, 7, 9, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harashima (US 5,838,930), hereafter referred to as Harashima'930, in view of Jacobs (US 6,618,788), hereafter referred to as Jacobs'788.

Referring to claim 1, Harashima'930 teaches a method of arranging a host apparatus to transmit commands to an external device connected to the host apparatus over an external databus which is arranged in accordance with a first standard (ISA bus 104 as seen in figure 3 and column 4, line 57), the method comprising: providing the host apparatus with a command bus (PCI bus 102 as seen in figure 3 and column 4, line 57) and a command interface arranged in accordance with a second standard for transmitting commands over the command bus (host/PCI bridge 122 as seen in figure 3 and column 4, line 30); and providing the host apparatus with at least one integrated circuit chip connected to the command bus and to the external databus and having an interface arranged to convert commands received from the command bus in a format in accordance with said second standard into a format in accordance with said first standard and to transmit the converted commands over the external databus

Art Unit: 2184

(PCI-ISA bridge device 128 is a LSI as seen in figure 3 and column 4, line 56), the interface of the integrated circuit chip comprising a first layer arranged in accordance with said second standard to receive commands from the command bus (connected to internal PCI bus as seen in figure 3 and column 4, lines 55-56), a second layer arranged to convert commands output from the first layer into a format in accordance with said first standard (internal ISA bus bridge 148 converts PCI cycles to ISA cycles as seen in figure 3 and column 7, line 67 - column 8, line 3), and a third layer arranged in accordance with said first standard to transmit the converted commands over the external databus (connected to ISA bus as seen in figure 3 and column 4, lines 55-56).

Harashima'930 does not appear to explicitly teach the first standard being one of the IEEE 1394 standard or the Universal Serial Bus standard, and the second standard being one of the ATA/IDE standard and the Serial ATA standard.

However, Jacobs'788 teaches the first standard being one of the IEEE 1394 standard and the Universal Serial Bus standard (USB host controller 88 as seen in figure 3 and column 3, line 13; the USB host controller 194 as seen in figure 8 is functionally equivalent, although not specifically mentioned in the specification of the reference), and the second standard

Art Unit: 2184

being one of the ATA/IDE standard and the Serial ATA standard (ATA host driver 134 comparable to an ATA driver used with an onboard ATA bus as seen in figure 8 and column 6, lines 8-9).

Jacobs'788 is analogous to Harashima'930 because they are both drawn to the same inventive field of converting bus protocols.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Harashima'930 and Jacobs'788 before him or her, to modify the bus bridge of Harashima'930 to include the USB and ATA standards of Jacobs'788 because the use of the ATA and USB standards is commonplace in the field of computers. Further, although Jacobs'788 largely deals in software-based conversion, it is recognized in the art that there is no functional difference between performing a given function in software and performing the same function in hardware (Andrew Tanenbaum, "Structured Computer Organization, Second Edition", page 11, lines 12-20).

The motivation for doing so would have been to enable a USB plug-and-play connection to access external ATA hard drives, which tend to be cheaper and provide more storage space (column 3, lines 55-59).

Therefore, it would have been obvious to combine Jacobs'788 with Harashima'930 to bring about the invention as claimed.



Note that claims 7 and 13 contain the corresponding limitations of claim 1 as shown above; therefore, they are rejected using the same reasoning accordingly.

As to claim 3, Jacobs'788 teaches the method of claim 1, wherein said one of the ATA/IDE standard and the Serial ATA standard is the ATA/IDE standard (ATA host driver 134 comparable to an ATA driver used with an onboard ATA bus as seen in figure 8 and column 6, lines 8-9).

Note that claims 9 and 15 contain the corresponding limitations of claim 3 as shown above; therefore, they are rejected using the same reasoning accordingly.

7. Claims 2, 4-5, 8, 10-11, 14, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harashima'930 and Jacobs'788 as applied to claim 1 above, and further in view of Hatano (US 2002/0002645), hereafter referred to as Hatano'645.

As to claim 2, Harashima'930 and Jacobs'788 do not appear to explicitly teach the method of claim 1, wherein the host apparatus is a digital television receiver apparatus.

Art Unit: 2184

However, Hatano'645 teaches the method of claim 1, wherein the host apparatus is a digital television receiver apparatus (1394 bus may couple a digital broadcast receiving device and a digital television, paragraph 5, lines 5-7).

Hatano'645 is analogous to Harashima'930 and Jacobs'788 because they are drawn to the same inventive field of conversion between interface protocols.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Harashima'930 and Jacobs'788's system to incorporate, as taught by Hatano'645, the method of claim 1, wherein the host apparatus is a digital television receiver apparatus because in such devices conversion between signal interface protocols is common, such as in "digital cable" boxes that are connected to analog televisions.

The motivation to combine these teachings would have been to provide reliable communication and control among electronic devices coupled through different types of interfaces (paragraph 15, lines 1-4).

Therefore, it would have been obvious to combine the teachings of Harashima'930 and Jacobs'788 with the teachings of Hatano'645 to bring about the invention as claimed above.

Note that claims 8 and 14 contain the corresponding limitations of claim 2 as shown above; therefore, they are rejected using the same reasoning accordingly.

As to claim 4, Hatano'645 teaches the method of claim 1, wherein said one of the IEEE 1394 standard and the Universal Serial Bus standard is the IEEE 1394 standard (IEEE 1394 interface, paragraph 18, lines 2-3).

Note that claims 10 and 16 contain the corresponding limitations of claim 4 as shown above; therefore, they are rejected using the same reasoning accordingly.

As to claim 5, Hatano'645 teaches the method of claim 4, wherein said one of the IEEE 1394 standard and the Universal Serial Bus standard is the IEEE 1394 standard including a Serial Bus Protocol (SBP2, paragraph 42, line 20).

Note that claims 11 and 17 contain the corresponding limitations of claim 5 as shown above; therefore, they are rejected using the same reasoning accordingly.

***Response to Arguments***

Art Unit: 2184

8. Applicant's arguments with respect to claims 1-5, 7-11, and 13-17 have been considered but are moot in view of the new ground(s) of rejection.

Referring to independent claim 1, the references Harashima'930 and Jacobs'788 are believed to, when combined, teach the invention disclosed in claim 1.

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN B. ROCHE whose telephone number is (571)270-1721. The examiner can normally be reached on 8:30 am - 5:00 pm, M-F EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Tsai can be reached on 571-272-4176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2184

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JR

**/Henry W.H. Tsai/  
Supervisory Patent Examiner, Art Unit 2184**